REMARKS

As a preliminary matter, the Title of the Invention stands objected to. In response, Applicants have replaced the Title of the Invention with a new Title, as requested by the Examiner. A reconsideration and withdrawal of the outstanding objection to the Title are therefore respectfully requested.

As a second preliminary matter, Applicants wish to correct the Examiner's characterization of Applicants' grounds for traversing the Restriction Requirement mailed February 3, 2004. Applicants' grounds for traversal were not "that the species searches will overlap," as asserted by the Examiner. (Page 2 of Paper No. 7). In fact, the stated basis for traversal was that "examination of both species would not place an <u>undue burden</u> on the Examiner." Although Applicants also stated a belief that a search for one species would largely overlap the other, such was not the actual grounds for traversal.

To establish a proper Restriction Requirement, the Examiner is not merely required to demonstrate only that *some* additional burden will be placed upon the Examiner by examining the additional claims. Instead, the Examiner is required to establish that the examination of the additional claims would place and <u>undue</u> burden upon the Examiner. Applicants therefore repeat herein the previous arguments, that the Examiner has only established that some additional burden will be placed upon him to examine the additional identified claims, but not an undue burden. Because the Examiner has not rebutted these arguments, the Restriction Requirement should be withdrawn.

Claims 1-22, 34-55, and 67-88 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Specifically, the Examiner asserts that the claim language "input signal patterns of the present and past or future" is unclear. Applicants respectfully traverse. The claim language at issue is sufficiently clear within the context of the individual claims themselves, and in light of the Specification to the present Application.

Claim 1, for example, separately recites a "present state" with regard to the input signal patterns cited by the Examiner. Accordingly, Applicants submit that the relativity of the terms at issue is established by the "present state" noises, and therefore the input signal patterns of the present and past or future would all be relative to the same recited "present state." One skilled in the art should be able to clearly understand the exact scope of Applicants' claimed invention from this clear claim language, and particularly in light of the Specification.

Nevertheless, and although Applicants submit that no amendment to the claims is necessary in response to this rejection, Applicants have amended independent claims 1, 12, 34, 45, 67, and 78 in the interests of expediting prosecution, to expand upon the already clear meaning of the recited terms at issue. The input signal patterns at issue are now all clearly defined as relative to either the "present state" or the "present time point," as the respective case may be. For at least these additional reasons therefore, withdrawal of this Section 112 rejection of the independent claims is respectfully requested.

Claims 3, 14, 36, 47, 69, and 80 also stand rejected under Section 112, second paragraph, as do also claims 4, 15, 37, 48, 70, and 81, and all for claim language similar to

that discussed above with respect to the independent claims. In response, Applicants have amended all of these additional claims to be consistent with the amended language of their respective base claims, as discussed above, and submit that the Examiner should find the claim language from these dependent claims no longer vague according to the amendments made to the independent claims. Accordingly, Applicants submit that the Section 112 rejection of these dependent claims should be withdrawn in light of these amendments.

Claims 6, 17, 39, 50, 72, and 83 further stand rejected under the second paragraph of Section 112. Specifically, the Examiner finds the phrase "an MTR restriction and the like" to be unclear. Although Applicants submit that the phrase is not unclear in light of the teachings of the Specification, Applicants have nevertheless amended each of these claims as well to remove the phrase "and the like" in the interests of expediting prosecution. Applicants submit that this Section 112 rejection should also be withdrawn in light of these amendments.

Claims 1, 12, 34, 45, 67, and 78 stand rejected under 35 U.S.C. 102(e) as being anticipated by Zook (U.S. 6,185,175). Applicants respectfully traverse this rejection because the cited reference does not disclose (or suggest) training to calculate correlation and deviation of noises, as in the independent claims of the present invention, as amended.

Zook discloses a maximum likelihood detection method and noise correlation circuit. As shown in Fig. 3, Zook outputs a signal Rk from a filter 74 into a detector 88 and a processor 95, a preliminary sequence PR4 (see Fig. 5B) already being presumed. (See col. 10, lines 18-30). According to Zook therefore, an error event based on channel noises is

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traced by the processor 95 in response to the predicted sequence PR4, and thus the predicted sequence PR4 is corrected. Zook neither discloses nor suggests that any teaching is utilized in the error correction or noise correlation.

In contrast, the independent claims of the present invention as amended all recite, among other things, that training is part of the noise deviation calculation and/or noise correlation of the present invention. Additionally, the present invention further features that noise correlation is accomplished according to past, present, and/or future input signal patterns relative to a present state or time point, which timing features further enhance the recited training features. Zook neither teaches nor suggests any of these features of the present invention.
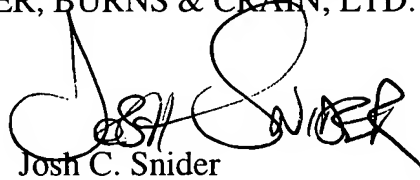
The noise sequences n_k in Zook are simple sampling errors which are obtained by subtracting a remodulated sample sequence S_k from an actual read signal R_k. None of these noise sequences n_k are determined from past or future input signal patterns relative to a present state or time point, nor is there any teaching or suggestion from Zook that colored noises are converted into white noises obtained by using stored correlations and deviations of the noises from past or future pattern states, as featured in the present invention. Accordingly, for at least these reasons as well, Zook does not read upon the independent claims of the present invention, and therefore this Section 102 rejection based on Zook should be withdrawn.

For all of the foregoing reasons, Applicants submit that this Application, including claims 1-99, and at least claims 1-22, 34-55, and 67-68, is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By
Josh C. Snider
Registration No. 47,954

Customer No. 24978

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300 South Wacker Drive
Suite 2500
Chicago, Illinois 60606
Telephone: (312) 360-0080
Facsimile: (312) 360-9315
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